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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,760	08/19/2003	Hideo Tsuchiya	241713US2SRD	3731

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ALEXANDRIA, VA 22314

EXAMINER
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CHAWAN, SHEELA C

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/26/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/26/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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**Office Action Summary**

Application No.

10/642,760

Applicant(s)

TSUCHIYA ET AL.

Examiner

Sheela C. Chawan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 January 2007.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date See Continuation Sheet.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :8/19/03,  
2/25/04, 3/19/04, 2/02/05.

**DETAILED ACTION**

***Election/ Restriction***

1. In response to applicant election filed on Jan 25, 2007 has been entered.

In response to applicant election filed on Jan 25, 2007. Applicant elect with traverse invention I claims 1-8. Examiner agrees the arguments are persuasive and examiner is going to withdraw the restriction, and that a full examination on the merits of claims 1-15 has been conducted.

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on, 8/19/03, 2/25/04, 3/19/04 and 2/02/25, the information disclosure statement is being considered by the examiner.

***Drawings***

4. The Examiner has approved drawings filed on 8/19/03.

***Claim Objections***

5. Claims 6,7,8, 13-15 is objected to because of the following informalities:

Claim 6, line 4 change “,” to “;”.

Claim 6, line 9 change “,” to “;”.

Claim 6, line 13 change “,” to “;”.

Claim 6, line 18 change “,” to “;”.

Similarly all the claims need to be corrected.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1- 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Haruo Yoda et al., document number (59-192943).

As to claim 1, Haruo Yoda discloses a pattern inspection apparatus (Note, inspecting fine base pattern, page 4, lines 6-8) comprising:

Imaging optics which forms an optical image of a pattern formed on a plate to be inspected based on designed pattern data (fig 2, page 4, lines 11-16);

detected pattern data generator, which detects the optical image to generate detected pattern data (fig 2, 5a and 5b);

a reference pattern data generator, which generates first reference pattern data regarding the detected pattern data from the designed pattern data (fig 2, 4 is the inspection object is attached to the moving plat form 6, which is moved at a constant speed in X- direction by the moving plat form control circuit 8);

a first comparator, which compares the detected pattern data with, the first reference pattern data to detect a defect of the pattern formed on the plate (fig 2, page 5, line 19-25, page 6, line 1-3);

first memory which, when there are a plurality of repeated pattern areas on the plate, stores pattern data obtained by detecting an inspection area (fig 2, circuit block), which is one of the plurality of repeated pattern areas, as second reference pattern data (page 4, lines 11-16, page 6, lines 3-19);

second comparator which compares the detected pattern data with the second reference pattern data to detect the defect of the pattern formed on the plate (page 6, lines 9-25); and

a computer which reads an arrangement, a number, a dimension and a repeated pitch of the plurality of repeated pattern areas from the designed pattern data, and stores the inspection area as a basis of the second reference pattern data (page 6, lines 1-25).

As to claim 9, see the rejection of claim 1 above the claim limitations are addressed on pages 4-7.

As to claims 2 and 10, Haruo Yoda discloses the pattern inspection apparatus according to claim 1, wherein the computer detects presence of the plurality of repeated pattern areas from layout information contained in the designed pattern data, and reads the arrangement, the number, the dimension and the repeated pitch of the plurality of the repeated pattern areas (fig 1, page 7, lines 1-11, page 9, lines 5-17).

As to claims 3 and 11, Haruo discloses the pattern inspection apparatus according to claim 1, wherein the computer defines a fixed pattern range as a cell from description of the designed pattern data, detects start positions and finish positions of a plurality of repeated cells from repeated description of the cell, and reads an

arrangement, a number, a dimension and a repeated pitch of the plurality of repeated cells (page 6, lines 1-8).

As to claims 4 and 12, Haruo discloses the pattern inspection apparatus according to claim 1, wherein the computer saves the designed pattern data as an image, extracts a repeated feature by pattern matching to detect presence of a plurality of repeated sub chips in one chip, and reads an arrangement, a number, a dimension and a repeated pitch of the plurality of repeated subchips (page 6, lines 20-25).

As to claims 5 and 13, Haruo discloses the pattern inspection apparatus according to claim 1, wherein comparison is carried out for the same detected pattern area by using both of the first and second comparators (page 8, lines 1-12).

As to claims 6 and 13, Haruo discloses the pattern inspection apparatus according to claim 1, wherein detected pattern data of a first detected area generated by the detected pattern data generator is sent to the first comparator and the first memory (page 8, lines 1-12),

the first comparator compares the detected pattern data of the first detected area with reference pattern data of the first detected area generated by the reference pattern data generator regarding the detected pattern data (page 8),

detected pattern data of a second detected area generated by the detected pattern data generator after the detected pattern data of the first detected area is sent to the first and second comparators (page 11, lines 14-21),

the first comparator compares the detected pattern data of the second detected area with reference pattern data of the second detected area generated by the

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reference pattern data generator regarding the detected pattern data (page 11, lines 14-21), and

the second comparator compares the detected pattern data of the second detected area with the detected pattern data of the first detected area stored in the first memory (page 11, lines 14-21).

As to claims 7 and 14, Haruo discloses the pattern inspection apparatus according to claim 6, wherein detected pattern data of a third detected area generated by the detected pattern data generator after the detected pattern data of the second detected area is sent to the first and second comparators, the first comparator compares the detected pattern data of the third detected area with reference pattern data of the third detected area generated by the reference pattern data generator regarding the detected pattern data, and the second comparator compares the detected pattern data of the third detected area with the detected pattern data of the first detected area stored in the first memory (page 11, lines 14-24).

As to claims 8 and 15, Haruo discloses the pattern inspection apparatus according to claim 1, wherein the reference pattern data generator has a second memory, the detected pattern data of the first and second detected areas generated by the detected pattern data generator are sent to the first and second memories, the first comparator compares the detected pattern data of the first and second detected areas with the reference pattern data of the first and second detected areas generated by the reference pattern data generator, and the second comparator compares the detected



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pattern data of the first and second detected areas stored in the first memory with each other (fig 8, comparator 78 page 14, lines 14-25 ).

***Other prior art cited***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Taniguchi et al., (US. 5,173, 719) discloses method and apparatus for the inspection of patterns.

Sanada et al., (US. 6,084,716) discloses optical substrate inspection apparatus.

Matsuyama et al., (US. 6,603,875 B1) discloses pattern inspection method, pattern inspection apparatus, and recording medium which records pattern inspection program.

Nozaki et al., (US. 6,040,911) discloses reference image forming method and pattern inspection apparatus.

Sakai et al., (US. 7,127,126 B2) discloses image alignment method, comparative inspection device for comparative inspections.

**Contact Information**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela C Chawan whose telephone number is. 571-272-7446. The examiner can normally be reached on Monday - Thursday 7.30 - 6.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sheela Chawan  
Patent Examiner  
Group Art Unit 2624  
March 16, 2007

*Sheela Chawan*  
SHEELA CHAWAN  
PRIMARY EXAMINER